

PATENT CLAIMS

1. A method of estimating the total amount bet by an individual patron participating in a game of roulette and playing with chips of a specific nature, for example of a specific coloring or size or shape or pattern, comprising the step of counting the number of chips of that specific nature, which pass through a chipper machine associated with the game of roulette while the patron is playing.

2. A method for determining the total amount bet by individual patrons participating in a plurality of spins of a roulette game at a gaming table fitted with a chipper machine and an intelligent table terminal, the method comprising the steps of:

- interfacing the chipper sorting machine to the table terminal
- allocating a patron a chip color at the table terminal
- counting the number of color chips sorted by the chipper machine per color
- associating the number of color chips sorted by the chipper machine per color with the patron
- and determining the total amount bet by that patron by mathematically linking the chip value of the color chip of the patron with the number of chips of the individual color sorted by the chipper machine in the time period in which the color chip is associated with that patron.

2 3. A method in accordance with claim ¹~~2~~ including the step of entering the chip value at the table terminal if the color chip is not played with the default table minimum value.

5 3 4. A method in accordance with claim ¹~~2~~ including the step of allocating a patron not using color chips an individual value chip.

4 5. A method in accordance with claim ¹~~2~~ including the step of compensating for chips sorted but not played by reducing the number of sorted chips by a percentage.

5 6. A method in accordance with claim ¹~~2~~ including the step of storing information relating to the number of chips sorted per color and spin in a data processing system and associating time signals with any such storage information.

6 7. A method in accordance with claim ¹~~2~~ including the step of displaying the color chips on a display board indicating the value of color chips allocated to patrons on the display board.

20 7 8. A method in accordance with claim ⁶~~7~~ including the step of offering a win calculator at the table terminal on which the number of winning chips per chance for an individual chip color or chip value are entered, and calculating the numbers of chips won and a payout based on the number of winning chips per chance, the number of chips won per chance and the chip value of the color chip using the chip value of the color chip known to the system.

8 9. A method in accordance with claim ⁷~~8~~ including the step of showing some or all of the number of winning chip per chance, the number

of chips won per chance, the total number of chips won, and/or the total value of chips won.

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A method in accordance with claim ⁸9 including the step of proposing the said payout in the form of a number of color chips and a balance in an amount of value chips, taking into account the limited number of color chips available on the table.

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A method in accordance with claim ¹12 including the further step of determining the performance of the croupier from information stored in the data processing system at the start of the croupier gaming and during the croupier gaming at the table during the playing of a plurality of spins, e.g. by determining the average duration of a spin, the number of patrons, the number of color chips played or sorted.

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A method in accordance with claim 1 for determining the total amount bet by individual patrons participating in a plurality of spins of a roulette game at a gaming table, in which said individual patrons play using chips having different colors, a respective color being associated with each said individual patron, there being a chipper machine for receiving chips collected by a croupier during the game of roulette and for arranging the chips according to their coloring in respective columns, from which the croupier can take stacks of a predetermined number of chips of a respective color, each chip of a particular color having an associated monetary value, the method comprising the steps of counting the total number of chips of each color passing through the chipper machine during the period each individual patron is present at said gaming table, and

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establishing the total monetary value of the chips of each color passing through the chipper machine.

- 5 ¹² 13. A method in accordance with claim ¹¹ 12 and including the further step of estimating from said number of chips or from said total monetary value the total amount bet by an individual patron playing with chips of the said color.
- 10 ¹³ 14. A method in accordance with claim ¹² 13, wherein the step of estimating comprises the step of subtracting from the total number of chips of each color passing through the chipper machine, or from said monetary value a percentage reflecting the house rules on the breaking of stacks.
- 15 ¹⁴ 15. A method, in particular in accordance with claim ¹¹ 12, of determining the total win or loss by a patron participating in a game of roulette, the method comprising the steps of determining the total amount of all pay-ins made during the game by capturing at a table terminal a piece of information identifying the player, and each buy-in or drop amount irrespective of the method of payment, determining the walk amount at the end of the patron's game in the form of value chips and/or cancelled markers, and establishing the difference between the total amount of all pay-ins and the walk amount.
- 20 ¹⁶ 16. A method in accordance with claim ¹⁴ 15, wherein pay-ins in the form of value chips are detected automatically by the change in value of a chip tray associated with the roulette table.
- 25 ¹⁷ 17. A method in accordance with claim ¹¹ 12 and comprising the further steps of determining when a new croupier arrives at the gaming
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table, summing the total amounts bet by all patrons playing at the gaming table during the period in which the new croupier is working at the gaming table with reference to the chips of all colors sorted by the chipper machine during this period, and electronically associating the sum of the total amounts bet to the croupier.

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A method in accordance with claim ~~17~~¹⁶, wherein a statistical correction is added to said sum of the total amounts bet to reflect the numbers of chips returned to the chipper machine due to the breaking of chip stacks when paying winnings to individual patrons.

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A method in accordance with claim ~~17~~¹⁶, comprising recording the sum of the total amount bet during each working period of a particular croupier for a plurality of working periods of that croupier and forming a total sum of the amounts bet over a plurality of working periods of said croupier.

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A method of estimating the performance of a croupier at a roulette table, comprising the steps of summing, for each period the croupier is working at the roulette table, the total amount bet by each of the patrons participating in the game of roulette during that period or during a fraction of that period, wherein the individual patrons play using chips having different colorings, the respective coloring being associated with each said individual patron, there being a chipper machine for receiving chips collected by a croupier during the game of roulette and for arranging the chips according to their coloring in respective columns, from which the croupier can take stacks of a predetermined number of chips of a respective color, each chip of a particular color having an associated monetary value, the method

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comprising the steps of counting the total number of chips of each color and / or value passing through the chipper machine during the period each individual patron is present at said gaming table, and establishing the total monetary value of the chips of each color and each value passing through the chipper machine.

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21. A method in accordance with claim 17 and comprising the further step of determining the number of spins per period of time (or the average duration of a spin achieved by a croupier) during one or more working periods.

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22. Method in accordance with claim 17, including the further step of counting the total numbers of chips sorted by the chipper machine during each working period of a croupier.

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23. A method in accordance with claim 17, including the further step of determining the win or loss achieved by a croupier in each working period by capturing the financial table status at the beginning and end of each working period.

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24. A method in accordance with claim 17 including the step of determining the win or loss achieved by a croupier over a period of time.

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25. A method in accordance with claim 17 including the step of determining the win percentage achieved by a croupier over a period of time.

26. A method in accordance with claim 17 including the step of

determining the total drop achieved by a croupier over a period of time.

- 5 27. A method in accordance with claim 17 including the step of determining the number of spins achieved by a croupier in a period of time and correcting this number by a factor taking account of the number of active player positions and/or the chips placed by the patrons.
- 10 28. A method in accordance with claim 17 including the step of determining the average number of active player positions handled by a croupier in a period of time.
- 15 29. A method in accordance with claim 17 including the step of determining whether the number of active player positions handled by a croupier in a working period increases or decreases.
- 20 30. A method in accordance with claim 17 including the step of determining for a particular croupier and working period the average bet placed with the croupier during the working period.
31. A method in accordance with claim 30 including the step of setting the average bet in relation to the table minimum.
- 25 32. A method in accordance with claim 17 including the step of determining whether the average bet placed by patrons with a croupier increases or decreases during a working period.

33. A method of determining whether a croupier is practicing section spinning by measuring, for a plurality of spins of a roulette wheel, at least one of the following parameters:

- the initial speed of the ball in the rim of the roulette wheel,
- the speed of rotation of the moving roulette wheel when the ball is initially launched into it, and

- the relative position of the roulette wheel to the ball and to the segment of the casing in which the ball falls

and by mathematically determining whether the variation of any one parameter confers to an expected pattern and/or whether a correlation exists between these values.

34. A method in accordance with claim 33, including the step of determining whether, during a period of high correlation of the said parameters and/or with an unusual pattern of one or more of the said parameters, one or more patrons playing at the gaming table enjoy significantly higher wins than when these patron playing with other croupiers.

35. Roulette gaming system for use at a roulette table having a roulette wheel, a chipper machine for sorting color chips and a chip tray for storing value chips, the gaming system comprising a computer, means interfacing the chipper machine to the computer for the counting of the number of color chips of each color sorted by the chipper machine, detection means associated with the chip tray for detecting the change in value of the chip tray, means interfacing the chip tray to the computer and a table terminal interfaced to the computer for inputting information concerning the identity of

individual patrons, and information associating a color chip to any patron playing at the table.

5 36. Roulette gaming system in accordance with claim 35, wherein said table terminal is also adapted to enable a croupier to associate different values with each color chip.

10 37. Roulette gaming system in accordance with claim 35, wherein said table terminal includes a card reader for reading a player identification card and/or a croupier identification card.

15 38. Roulette gaming system in accordance with claim 35, wherein a chip value display is provided and means interfacing said chip value display to said computer, enabling the value associated with each chip to be displayed on said chip value display.

20 39. Roulette gaming system in accordance with claim 35, wherein a win calculation display is provided and is interfaced to the computer to permit the calculation of the win by a player, in particular for a complex bet.

25 40. Roulette gaming system in accordance with claim 39, wherein said table terminal has means permitting the croupier to input details concerning a winning bet for display on said payout display,

41. Roulette gaming system in accordance with claim 35, wherein said table terminal includes a table terminal.

30 42. Roulette gaming system in accordance with claim 35, wherein said table terminal is a touch screen terminal having a plurality of different graphic displays, by which the croupier can input

information, such as the association of a color chip to a particular patron, the amount of a drop effected by a patron, information for the calculation of a win and/or information relating to a walk amount.

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43. Roulette gaming system in accordance with claim 35 and further comprising a number display for displaying a winning number on the roulette wheel for each spin of the roulette wheel.

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44. Roulette gaming system in accordance with claim 35 and further including a detector for detecting at least one of the following parameters:

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- the initial speed of the ball in the rim of the roulette wheel,
- the speed of rotation of the moving roulette wheel when the ball is initially launched into it,
- the relative position of the roulette wheel to the ball and to the segment of the casing in which the ball falls.

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45. Roulette gaming system in accordance with claim 35, wherein a card reader is provided for each patron position around the table and means interfacing each said card reader to said computer.

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46. Roulette gaming system in accordance with claim 35, wherein said computer is programmed to calculate at least one of the following parameters:

- the total bet of a patron at the gaming table,
- the net win or loss of a patron at the gaming table,
- the total turnover of a croupier during a working period at the gaming table,

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- the number of spins per hour achieved by the croupier,
- the average duration of a spin of the roulette wheel achieved by a croupier,
- the net win or loss of the croupier,
- a determination of whether the croupier is practicing section spinning.

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